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| **2X — MRI scan of the hip for arthritis** |
| **Summary of Intervention** |
| When clinical assessment is suggestive of osteoarthritis (OA) and plain radiographs demonstrate typical OA features, the use of MRI for the investigation of hip pain is not usually needed.  **This guidance applies to adults aged 19 years and over.** |
| **Number of interventions in 18/19** |
| **13,352** |
| **Proposal** |
| Do not request a hip MRI when the clinical presentation (history and examination) and X-rays demonstrate typical features of OA. MRI scans rarely add useful information to guide diagnosis or treatment.  Requesting MRI scans further prolongs waiting times for patients.  Importantly it can cause unnecessary anxiety while waiting for specialist consultation and can delay MRI scans for patients with diagnoses other than OA of the hip.  The diagnosis of hip OA can be effectively made based upon the patient’s history and physical examination. NICE recommends diagnosing osteoarthritis clinically without investigations in patients who:  — Are 45 or over AND  — Have activity-related joint pain AND  — Have either no morning joint-related stiffness or morning stiffness that lasts no longer than 30 minutes.  It is important to exclude other diagnoses, especially when red flags are present. If imaging is necessary, the first-line investigation should be plain x-ray.  An MRI or urgent onward referral may be warranted in some circumstances.  These include:  — Suggestions of infection, e.g. pyrexia, swollen and red joint, significant  irritability, other risk factors of septic arthritis  — Trauma  — History or family history of an inflammatory arthropathy  — Mechanical, impingement type symptoms  — Prolonged and morning stiffness  — History of cancer or corresponding risk factors  — Suspected Osteonecrosis / Avascular necrosis of the hip  — Suspected transient osteoporosis  — Suspected periarticular soft tissue pathology e.g. abductor tendinopathy  Important differential diagnoses include inflammatory arthritis (for example, rheumatoid arthritis), femoro-acetabular impingement, septic arthritis and malignancy (bone pain). |
| **Rationale for Recommendation** |
| A meta-analysis published in 2017 assessing the role of MRI in OA, assessed 16 studies which included 1220 patients. It concluded that MRI is more useful in excluding OA rather than diagnosing it. The study recommended that standard clinical algorithm for OA diagnosis, aided by radiographs is the most effective method for diagnosing OA. The European League Against Rheumatism (EULAR) conducted a systematic review including 390 studies leading to seven recommendations concerning the use of imaging in peripheral joint OA as below:  — Imaging is not required to make the diagnosis in patients with typical presentation of OA. Level of evidence: III–IV. LOA (95% CI) 8.7 (7.9 to 9.4)  — In atypical presentations, imaging is recommended to help confirm the diagnosis of OA and/or make alternative or additional diagnoses. Level of evidence: IV. LOA (95% CI) 9.6 (9.1 to 10)  — Routine imaging in OA follow-up is not recommended. However, imaging is recommended if there is unexpected rapid progression of symptoms or change in clinical characteristics to determine if this relates to OA severity or an additional diagnosis. Level of evidence: III–IV. LOA (mean, 95% CI) 8.8 (7.9 to 9.7)  — If imaging is needed, conventional (plain) radiography should be used before other modalities. To make additional diagnoses, soft tissues are best imaged by US or MRI and bone by CT or MRI. Level of evidence: III–IV. LOA (95% CI) 8.7 (7.9 to 9.6)  — Consideration of radiographic views is important for optimising detection of OA features; in particular for the knee, weightbearing and patellofemoral views are recommended. Level of evidence: III. LOA (95%  CI) 9.4 (8.7 to 9.9)  — **According to current evidence, imaging features do not predict nonsurgical treatment response and imaging cannot be recommended for this purpose.** Level of evidence: II–III. LOA (95% CI) 8.7 (7.5 to 9.7)  — **The accuracy of intra-articular injection depends on the joint and on the skills of the practitioner and imaging may improve accuracy.**  **Imaging is particularly recommended for joints that are difficult to access due to factors including site (eg, hip), degree of deformity and obesity.** Level of evidence: III–IV. LOA (95% CI) 9.4 (8.9 to 9.9). |
| **References** |
| 1. Osteoarthritis: care and management NICE Guidelines Clinical guideline [CG177] Published date February 2014: https://www.nice.org.uk/guidance/cg177/chapter/1-Recommendations#diagnosis-2.  2. Menashe L, et al. The diagnostic performance of MRI in osteoarthritis: a systematic review and meta-analysis. Osteoarthritis Cartilage. 2012 Jan;20(1):13-21. PMID: 22044841.  3. Sakellariou G, et al. EULAR recommendations for the use of imaging in the clinical management of peripheral joint osteoarthritis. Ann Rheum Dis. 2017 Sep;76(9):1484-1494. PMID: 28389554. |